Declaration of Marshall Steinbaum, author of "Labor Market Impact of the Sprint-T-Mobile Merger." Roosevelt Institute and Economic Policy Institute, 2018.

March 21, 2019

In filings with the FCC, Trey Hanbury and Cathleen Massey, respectively counsel to and Vice President of Federal Regulatory Affairs at T-Mobile, allege that my paper predicting the effect of the proposed Sprint-T-Mobile merger makes errors "akin to the failure to convert miles to inches." This statement is false.

The approach taken in my paper is to predict the earnings impact of the proposed merger in local (commuting zone) labor markets using two inputs: the estimated effect of changing concentration in a labor market on the earnings of workers in that market, and the predicted change in labor market concentration in local markets due to the proposed merger. For the former, I rely on three recent economics working papers to obtain a total of four estimates. For the latter, I use estimates of current employment by the retail wireless industry in commuting zone labor markets.

Since my paper was completed, several other economics papers have been released finding a similar robust relationship between higher employer concentration in a labor market and lower earnings of workers in that market. Those papers include Qiu and Sojourner 2019; Prager and Schmitt 2018; and Berger, Herkenhoff, and Mongey 2019. The paper by Prager and Schmitt is particularly relevant to the topic at hand, since it shows earnings losses for workers as a result of hospital mergers in local labor markets.

Mr. Hanbury and Ms. Massey criticize my paper on the grounds that the labor market definition used in the papers to estimate the effect of concentration on earnings is not the same as the labor market definition used in the application of that relationship to retail wireless labor markets.

In fact, the source papers use a variety of labor market definitions, both broader and narrower than the retail wireless labor market used in the Sprint-T-Mobile application. For example, the paper by Benmelech, Bergman, and Kim (2018) includes specifications that effectively treat individual firms as labor markets. The paper by Azar, Marinescu, and Steinbaum (2017) includes not only occupationally-defined labor markets, but also specifications in which job titles define labor markets. So, for example, retail wireless store managers and line workers would work in two separate labor markets. The specifications selected from these three papers and used for the Sprint-T-Mobile study are chosen to be closest to the retail wireless labor market used in that study, of the range of specifications and associated point estimates provided by the source papers.

Moreover, the fact that the specifications used are, in general, wider than the retail wireless labor market weights the likelihood *against* finding anti-competitive effects of the merger in those labor markets. Ms. Massey characterizes the labor market definition in the source papers as "very broad." If that is true, then we would expect them to *understate* the negative effect of increasing concentration on worker earnings. The reason why is that if, in fact, workers have fewer alternative options in response to higher employer concentration than is assumed by a "very broad" market definition, then we would expect the estimation of a concentration-earnings relationship to be biased toward zero as a result of such a market definition error. Therefore, the use of specifications with a broader market definition from the source studies as opposed to the retail wireless labor market is a conservative modeling choice, likely to under-predict the effect of changes in concentration on earnings, if anything.

Ms. Massey writes "This error fatally impairs the EPI analysis. Once corrected, there is virtually no change in employment or wages even using EPI's flawed assumptions." But the paper in question doesn't predict a change in employment. In fact, it assumes one will not take place. This statement suggests that Ms. Massey did not read the paper she is criticizing very carefully, and her implication that she herself has "corrected" the supposed "math error—the statistical equivalent of failing to convert miles to inches" seems dubious, since replicating the analysis would have made it clear that the paper assumes no change in employment due to the merger.

References

Azar, José, Ioana Marinescu, and Marshall Steinbaum. 2017. "Labor Market Concentration." *NBER Working Papers*, no. 24147.

Benmelech, Efraim, Nittai Bergman, and Hyunseob Kim. 2018. "Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?" *NBER Working Papers*, no. 24307.

Berger, Daniel, Kyle Herkenhoff, and Simon Mongey. 2019. "Labor Market Power." Working Paper.

Prager, Elena, and Matt Schmitt. 2018. "Employer Consolidation and Wages: Evidence from Hospitals." Working Paper.

Qiu, Yue, and Aaron Sojourner. 2019. "Labor Market Concentration and Labor Compensation." Working Paper.

DATED: Washington, DC

March 21, 2019

Marshall Steinbaum, PhD

Maishiff Stirker